

THE BOTANICAL MAGAZINE TOKYO

VOL. 97 (1984)

Numbers 1045-1048, Pages 1-487

EDITORIAL BOARD

- KUNIO IWATSUKI : Editor-in-Chief, *Botanical Gardens, University of Tokyo, 3-7-1, Hakusan, Bunkyo-ku, Tokyo 112*
- MITSUO CHIHARA : Editor, *Institute of Biological Sciences, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaraki 305*
- SATORU MURAKAMI : Editor, *Department of Biology, University of Tokyo, Komaba, Meguro-ku, Tokyo 153*

- | | |
|--|---|
| Noboru Hara, <i>University of Tokyo</i> | Shoichi Kawano, <i>Kyoto University</i> |
| Shigeru Iizumi, <i>Tohoku University</i> | Itaru Takebe, <i>Nagoya University</i> |
| Nariyuki Ishikura, <i>Kumamoto University</i> | Ryuso Tanaka, <i>Hiroshima University</i> |
| Hideo Iwaki, <i>University of Tsukuba</i> | Shigeyuki Tanifuji, <i>Hokkaido University</i> |
| Seiichiro Kamisaka, <i>Osaka City University</i> | Seiichi Yoshida, <i>Tokyo Metropolitan University</i> |

THE BOTANICAL SOCIETY OF JAPAN

CONTENTS

THE BOTANICAL MAGAZINE, TOKYO

Vol. 97

No. 1045 (March 1984)

SATO, T.: Life History Characteristic of <i>Cyrtomium falcatum</i> around the Natural Northern Boundary in Hokkaido, with Reference to the Alternation of Generations	1
AWASTHI, D.K., V. KUMAR AND Y.S. MURTY: Flower Development in <i>Antirrhinum majus</i> L. (Scrophulariaceae) with a Comment upon Corolla Tube Formation	13
IWASHINA, T., S. OOTANI AND K. HAYASHI: Neochilenin, a New Glycoside of 3-O-Methylquercetin, and Other Flavonols in the Tepals of <i>Neochilenia</i> , <i>Neoporteria</i> and <i>Parodia</i> Species (Cactaceae)	23
YOSHITAMA, K., M. HISADA AND N. ISHIKURA: Distribution Pattern of Anthocyanins in the Polygonaceae	31
NAKANE, K., H. TSUBOTA AND M. YAMAMOTO: Cycling of Soil Carbon in a Japanese Red Pine Forest. I. Before a Clear-Felling	39
NAKA, K. AND K. YODA: Community Dynamics of Evergreen Broadleaf Forests in Southwest-ern Japan. II. Species Composition and Density of Seeds Buried in the Soil of a Climax Evergreen Oak Forest	61
SAKANO, K., T. SHIMMEN, S.-I. HATANAKA AND M. TAZAWA: Distribution of Isoasparagine among Different Characean Species	81
WATANABE, K. AND T. YAHARA: Studies on the Asian Eupatoria. II. Cytogeography of <i>Eupatorium chinense</i> subsp. <i>sachalinense</i> var. <i>oppositifolium</i>	87
MASUDA, M., J.A. WEST, Y. OHNO AND M. KUROGI: Comparative Reproductive Patterns in Culture of Different <i>Gigartina</i> Subgenus <i>Mastocarpus</i> and <i>Petrocelis</i> Populations from Northern Japan	107
RAJU, M.V.S. AND R.J. BARTON: On Dislodging Caryopses of Wild Oats	127
TOBE, H. AND P.H. RAVEN: The Number of Cells in the Pollen of Melastomataceae (Myrtales)	131

No. 1046 (June 1984)

FUJISHIMA, H.: Karyomorphological Studies of the <i>Ixeris dentata</i> Complex on Mount Ishi-zuchi	137
KOBARA, T. AND M. CHIHARA: Laboratory Culture and Taxonomy of Two Species of <i>Pedobesia</i> (Bryopsidales, Chlorophyceae) in Japan	151
SUEHIRO, K., K. HOZUMI AND K. SHINOZAKI: Growth of Three Species of <i>Bidens</i> under Different Levels of Soil Moisture Content	163
MINGO-CASTEL, A.M., C. GOMEZ-CAMPO, M.E. TORTOSA AND A. PELACHO: Hormonal Effects on Phyllotaxis of <i>Euphorbia lathyris</i> L.	171
YAMAMURA, Y.: Matter Production Processes of <i>Reineckia carnea</i> Kunth, an Evergreen Forest Floor Herb in the Warm-Temperate Region of Japan	179
KIKUCHI, M. AND T. IKAWA: Presence of an Enzyme Mediating Transfer of Phosphate from Thiamine Triphosphate to ADP in Germinating Maiz	193
TAKAHASHI, H.: The Floral Biology of <i>Tricyrtis latifolia</i> Maxim. (Liliaceae)	207
NISHIYAMA, I.: Interspecific Cross-Incompatibility System in the Genus <i>Avena</i>	219
TAKAHASHI, M.: Pollen Morphology in <i>Paris</i> and Its Related Genera	233
TATEOKA, T.: <i>Calamagrostis hakonensis</i> (Poaceae): Distribution and Differentiation of Cytotypes	247
MAEDA, M., A. HIRAOKA, T.N. TATEOKA AND T. TATEOKA: Detection of Rutin by High-Performance Liquid Chromatography and Its Application to Taxonomic Studies of <i>Calamagrostis</i> (Poaceae)	271

No. 1047 (September 1984)

NAKA, K. AND T. YONEDA: Community Dynamics of Evergreen Broadleaf Forests in South-western Japan. III. Revegetation in Gaps in an Evergreen Oak Forest.....	275
KUNII, H.: Effects of Light Intensity on the Growth and Buoyancy of Detached <i>Elodea nuttallii</i> (Planch.) St. John during Winter.....	287
KANZAKI, M.: Regeneration in Subalpine Coniferous Forests. I. Mosaic Structure and Regeneration Process in a <i>Tsuga diversifolia</i> Forest	297
MINAMIKAWA, T., T. KOSHIBA AND M. WADA: Compositional Changes in Germinating Spores of <i>Adiantum capillus-veneris</i> L.	313
KOSHIBA, T., T. MINAMIKAWA AND M. WADA: Hydrolytic Enzyme Activities in Germinating Spores of <i>Adiantum capillus-veneris</i> L.	323
KOGI, M.: A Karyomorphological Study of the Genus <i>Hypericum</i> (Hypericaceae) in Japan	333
OKAMOTO, M.: Centrifugal Ovule Inception. I. Sequence of Ovule Inception in <i>Silene cucubalus</i>	345
ISHIKURA, N., S. HAYASHIDA AND K. TAZAKI: Biosynthesis of Gallic and Ellagic Acids with ¹⁴ C-Labeled Compounds in <i>Acer</i> and <i>Rhus</i> Leaves	355
WADA, K., Y. HIRABAYASHI AND W. SAITO: Light Germination of <i>Anthoceros miyabeanus</i> Spores	369
SUZUKI, K.: Pollination System and Its Significance on Isolation and Hybridization in Japanese <i>Epimedium</i> (Berberidaceae)	381
TOBE, H. AND P.H. RAVEN: An Embryological Contribution to Systematics of the Chrysobalanaceae. I. Tribe Chrysobalaneae	397
KOYAMA, T.: Cyperaceae of Tropical America. Some New or Critical Species II	413
SAGA, N.: Isolation of Protoplasts from Edible Seaweeds	423

No. 1048 (December 1984)

YOSHITAMA, K.: Anthocyanins and Their Distribution in the Genus <i>Epimedium</i>	429
KUMAR, V., D.K. AWASTHI AND Y.S. MURTY: Shoot Apex, Leaf Development and Unifacial Tip in <i>Agave wightii</i> Drumm. et Prain (Agavaceae)	437
KIMURA, M., M. FUNAKOSHI, S. SUDO, W. KIMURA, Y. YAMAMURA AND S. HONMA: Litter-Fall and Reproductive Seasonalities in a <i>Leucaena leucocephala</i> Forest at Chichijima, Ogasawara (Bonin) Islands	447
SUZUKI, M.: Some Fossil Woods from the Palaeogene of Northern Kyushu, III	457
CHAUDHARI, G.S. AND J.A. INAMDAR: Leaf Architecture of Some Acanthaceae.....	469
KUMON, K., S. TSURUMI AND S. SUDA: IAA-Induced Hyperpolarization of the Membrane Potential in Isolated Cells from <i>Mimosa</i> Pulvinus	483

AUTHOR INDEX

THE BOTANICAL MAGAZINE, TOKYO

Vol. 97

AWASTHI, D.K.	13, 437	MURTY, Y.S.	13, 437
BARTON, R.J.	127	NAKA, K.	61, 275
CHAUDHARI, G.S.	469	NAKANE, K.	39
CHIHARA, M.	151	NISHIYAMA, I.	219
FUJISHIMA, H.	137	OHNO, Y.	107
FUNAKOSHI, M.	447	OKAMOTO, M.	345
GOMEZ-CAMPO, C.	171	OOTANI, S.	23
HATANAKA, S.-I.	81	PELACHO, A.M.	171
HAYASHI, K.	23	RAJU, M.V.S.	127
HAYASHIDA, S.	355	RAVEN, P.H.	131, 397
HIRABAYASHI, Y.	369	SAGA, N.	423
HIRAOKA, A.	271	SAITO, W.	369
HISADA, M.	31	SAKANO, K.	81
HONMA, S.	447	SATO, T.	1
HOZUMI, K.	163	SHIMMEN, T.	81
IKAWA, T.	193	SHINOZAKI, K.	163
INAMDAR, J.A.	469	SUDA, S.	483
ISHIKURA, N.	31, 355	SUDO, S.	447
IWASHINA, T.	23	SUEHIRO, K.	163
KANZAKI, M.	297	SUZUKI, K.	381
KIKUCHI, M.	193	SUZUKI, M.	457
KIMURA, M.	447	TAKAHASHI, H.	207
KIMURA, W.	447	TAKAHASHI, M.	233
KOBARA, T.	151	TATEOKA, T.	247, 271
KOGI, M.	333	TATEOKA, T.N.	271
KOSHIBA, T.	313, 323	TAZAKI, K.	355
KOYAMA, T.	413	TAZAWA, M.	81
KUMAR, V.	13, 437	TOBE, H.	131, 397
KUMON, K.	483	TORTOSA, M.E.	171
KUNII, H.	287	TSUBOTA, H.	39
KUROGI, M.	107	TSURUMI, S.	483
MAEDA, M.	271	WADA, K.	369
MASUDA, M.	107	WADA, M.	313, 323
MINAMIKAWA, T.	313, 323	WATANABE, K.	87
MINGO-CASTEL, A.M.	171	WEST, J.A.	107

YAHARA, T. 87
YAMAMOTO, M. 39
YAMAMURA, Y. 179, 447

YODA, K. 61
YONEDA, T. 275
YOSHITAMA, K. 31, 429

Index of Key Words

- | | | | |
|--|----------|--|----------|
| A | | Cyperaceae | 413 |
| <i>Abies</i> | 297 | <i>Cyrtomium falcatum</i> | 1 |
| Acanthaceae | 469 | Cytogeography | 87 |
| <i>Acer buergerianum</i> | 355 | Cytotype | 137 |
| Activating value | 219 | D | |
| Activation index | 219 | Developmental age | 1 |
| <i>Adiantum capillus-veneris</i> L. (fern) | 313, 323 | Dispersal | 287 |
| Agamic complex | 137 | Distribution of cytotypes | 247 |
| <i>Agave wrightii</i> | 437 | Distribution pattern | 31, 429 |
| Age structure | 297 | Dwarf maturation | 1 |
| Algae | 423 | E | |
| Alternation of generations | 1 | Ellagic acid | 355 |
| Amino acids | 313 | <i>Elodea nuttallii</i> | 287 |
| Aminopeptidase | 323 | Embryology | 397 |
| Amylase | 323 | <i>Enteromorpha</i> | 423 |
| <i>Anthoceros miyabeanus</i> | 369 | Epidermal cell arrangement | 345 |
| Anthocyanins | 31, 429 | <i>Epimedium</i> | 381, 429 |
| <i>Antirrhinum majus</i> | 13 | <i>Eupatorium</i> | 87 |
| Apo-amphimictic complex | 247 | <i>Euphorbia lathyris</i> L. | 171 |
| ATP synthesis | 193 | Evergreen oak forest | 61, 275 |
| <i>Avena</i> | 219 | Evergreen plants | 179 |
| <i>Avena fatua</i> | 127 | F | |
| Awn movement | 127 | Flavonoids | 271 |
| B | | Flavonols | 23 |
| Benzyladenine | 171 | Floral apex | 345 |
| Berberidaceae | 381 | Floral biology | 207 |
| <i>Bidens biternata</i> | 163 | Floral histogenesis | 13 |
| <i>Bidens frondosa</i> | 163 | Fossil from Japan | 457 |
| <i>Bidens pilosa</i> | 163 | Fossil wood | 457 |
| Biosynthesis | 355 | G | |
| <i>Bombus</i> | 207 | Gallic acid | 355 |
| Buoyancy | 287 | Gap | 275 |
| Buried seeds | 61 | Gap indicator | 275 |
| C | | Geitonogamy | 207 |
| ¹⁴ C-labeled compounds | 355 | Germination (fern spore) | 313 |
| Cactaceae | 23 | Gibberellic acid | 171 |
| <i>Calamagrostis</i> | 271 | <i>Gigartina</i> subgenus <i>Mastocarpus</i> | 107 |
| <i>Calamagrostis hakonensis</i> | 247 | Growth regulators | 171 |
| Carbohydrate | 179 | H | |
| Cellulase | 423 | Habitat preference | 87 |
| Centrifugal ovule inception | 345 | High-performance liquid chromatography | 271 |
| <i>Chara</i> | 81 | Homology | 13 |
| Chromosome | 333 | Hornwort | 369 |
| Chrysobalanaceae | 397 | Hybridization | 107, 381 |
| Chrysobalanaceae | 397 | Hydrolytic enzymes | 323 |
| <i>Chrysobalanus</i> | 397 | <i>Hypericum</i> | 333 |
| Compartment model | 39 | | |
| Corolla tube | 13 | | |
| Cross-incompatibility | 219 | | |
| Culture study | 151 | | |

<i>Hypolytrum</i>	413	<i>Picea</i>	297
I		<i>Pinus densiflora</i>	39
IAA-induced hyperpolarization	483	Poaceae	127
Intraspecific hybridization	247	Pollen	131
Interspecific cross	219	Pollen morphology	233
Isoasparagine	81	Pollination	207, 381
Isolated motor cell	483	Polygonaceae	31
Isolation	381	Polyploid evolution	247
<i>Ixeris dentata</i> complex	137	Polyploidy	87, 333
K		Protoplast	423
Karyotype	137, 333	<i>Prunus</i>	457
L		Q	
<i>Lamprothamnium</i>	81	Quercetin 3-methyl ether derivatives	23
Leaf anatomy	469	R	
Leaf architecture	469	Regeneration pattern	61
Leaf development	437	<i>Reineckia carnea</i>	179
<i>Leucaena leucocephala</i>	447	Relationship	233
<i>Licania</i>	397	Reproductive seasonality	447
Life history	107, 151	Repulsive factor	163
Life-span	297	Reserve lipid	313
Light	287, 313	Reserve protein	313
Light germination	369	Reserves	179
Lipase	323	Response value	219
Litter fall	447	Revegetation	275
M		Rhodophyta	107
Matter production	179	<i>Rhus succedanea</i>	355
<i>Medeola</i>	233	Rutin	271
Melastomataceae	131	S	
Membrane potential	483	<i>Scleria</i>	413
<i>Mimosa pudica</i>	483	<i>Scoliopus</i>	233
<i>Monostroma</i>	423	Scrophulariaceae	13
Mosaic structure	297	Secondary forest ecosystem	39
Myrtales	131	Seed apomict	137
N		Seed dispersal	61
<i>Neochilenia</i> spp.	23	Seed dormancy	61
Neochilenin	23	Seed germination	61
<i>Nitella</i>	81	Seed production	447
<i>Nitellopsis</i>	81	Self-compatible	207
Number of venation	1	Shoot apex	437
O		<i>Silene cucubalus</i>	345
Oligocene	457	Simulation	39
Optimum growth	163	Sohayaki-Region	87
<i>Oreobolus</i>	413	Soil carbon cycling	39
P		Soil moisture content	163
<i>Paris</i>	233	Soil respiration	39
<i>Pedobesia lamourouxii</i>	151	South America	413
<i>Pedobesia ryukyuensis</i>	151	Spore germination	369
<i>Petrocelis</i>	107	Spore germination (fern)	323
Phosphotransferase	193	Starch	287
Photomorphogenesis	369	Subbasal meristem	345
Phyllotaxis	171	Subtropical forest	447
		T	
		Tertiary	457
		The 3/2 power law	275

Thiamine triphosphate	193	V	
<i>Tolypella</i>	81	Venation	469
<i>Tricyrtis latifolia</i>	207		
<i>Tsuga</i>	297	W	
Two-celled pollen	131	Winter growth	287
U		Z	
<i>Ulva</i>	423	<i>Zea mays</i> L.	193
Unifacial tip	437	Zonal growth	13

Acknowledgement to Reviewers for Vol. 97

The Editorial Board is grateful to the following reviewers for their cooperation in examining the manuscripts submitted to the Botanical Magazine, Tokyo, Vol. 97.

I. UKUDA
Y. FUKUDA
H. FUKUSHIMA
S.-I. HATANAKA
I. HAYASHI
T. HIROSE
T. HORI
K. HOZUMI
T. IKAWA
H. INOUE
S. KATOH
M. KATSUMI
M. KIMURA
U. KISHIMOTO
K. KIYOSAWA
H. KOBAYASHI
A. KOMAMINE
S. KURAISHI
T. KUROIWA
S. KUROKAWA

E. MARUTA
M. MONSI
M. NISHIDA
M. OSUMI
K. SHŌNO
T. SIBAOKA
S. SUDA
M. SUGAI
K. TAKEDA
M. TAMURA
T. TATEOKA
M. TAZAWA
T. TOTSUKA
K. UEDA
M. WADA
T. YAMAZAKI
K. YODA
Y. YOKOI
O. YOSHIDA
T. YOSHIDA